NATURAL RESOURCES CONSERVATION SERVICE

VIRGINIA CONSERVATION PRACTICE STANDARD

PRESCRIBED GRAZING

(Acre)

Code 528

DEFINITION

The managed harvest of vegetation with grazing or browsing animals with the intent to achieve a specified objective or objectives.

PURPOSES

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

- Maintain or improve the health and vigor of selected plant(s) and plant communities
- Maintain or improve animal health and productivity
- Maintain or improve water quality, quantity and availability
- Reduce soil erosion and maintain or improve soil condition
- Provide food and cover for wildlife
- Maintain or improve air quality as related to efficiency of production (less methane produced per unit of production) and reduced dependency on machinery
- Maintain or improve the opportunity of producers, managers and operators to achieve specified goals

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on all lands where grazing or browsing animals occur. Appropriate use of this standard may occur in Virginia on such land uses as pasture, hay, crop, and wildlife areas where grazing is compatible with the wildlife management objectives.

CRITERIA

GENERAL CRITERIA FOR ABOVE PURPOSES

Plans for prescribed grazing shall comply with all applicable Federal, state, and local laws, rules, and regulations.

Perimeter fences shall be capable of preventing livestock escape. Interior fencing shall provide control necessary to implement the grazing plan.

All prescribed grazing methods must have enough grazing units (pastures/paddocks) to allow for an appropriate recovery period. The fewer the pastures or paddocks, the more difficult it is to manage for proper recovery periods and the lower the utilization rate. If the number of grazing units is not sufficient for proper recovery periods, then the animals must be totally or partially removed at necessary intervals to ensure adequate forage and ground cover.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

The stocking rate of the grazing animals on a particular treatment unit shall be controlled to meet the producer's management goals and objectives.

All decisions related to forage management and stocking rate shall be based on the producer's desired forage crop.

Removal of herbage shall be in accordance with forage production limitations, plant sensitivities and management goals. Appropriate references shall be used as guidance.

Frequency of defoliation and season of grazing will be based on the rate and physiological conditions of plant growth.

Duration and intensity of grazing will be based on desired plant health and expected productivity of key forage species to meet management unit objectives.

Manipulate the intensity, frequency, duration, and season of grazing to:

- Ensure optimum water infiltration
- Maintain or improve riparian and upland area vegetation
- Protect stream banks from erosion
- Manage for deposition of fecal material away from water bodies
- Promote ecologically and economically stable plant communities on both upland and bottomland sites which meet the landowner’s objective

CRITERIA FOR ANIMAL HEALTH AND PRODUCTIVITY

Pastured livestock shall not be emaciated, denied access to water or left untreated with traumatic wounds, disease or parasites when symptoms appear. Care and handling shall be done in a humane manner.

Movement of animals shall be in a manner to improve and/or maintain animal health and performance, and to reduce spread of disease, parasites, and contact with harmful insects.

Grazing systems will be designed/applied in accordance with quality and quantity criteria that best meet production requirements for the kind and/or class of animal.

Adequate quantity and quality of water must be available in all grazing systems. All pastures/paddocks shall have access to livestock watering facilities.

CRITERIA TO MAINTAIN OR IMPROVE WATER QUALITY

Duration, intensity, frequency, and season of grazing near surface waters will be planned and applied in such a manner that vegetation and water quality are maintained or improved.

Watering and feeding facilities and shade areas shall be sited or constructed to prevent or discourage livestock from creating loafing areas adjacent to surface water bodies.

CRITERIA TO REDUCE SOIL EROSION AND MAINTAIN OR IMPROVE SOIL CONDITION

Ground cover provided by grasses and legumes shall be maintained at a level (80% or more) to minimize soil erosion.

When crop residues are grazed, percent ground cover shall be monitored and livestock removed when ground cover approaches the minimum amount necessary to keep soil erosion losses to the specified level of control and to maintain soil condition.

Pasture fencing layouts shall provide laneways that are least prone to livestock trail erosion.

Grazing on somewhat poorly, poorly, and very poorly drained soils shall be deferred during times of high water table occurrence.

CRITERIA TO PROVIDE FOOD AND COVER FOR WILDLIFE

When forages are planted, select forage species that have value for both wildlife and grazing livestock.

For ground nesting birds which need thatch-free grassy areas for nesting:

- Stock sites after birds are off their nests (July 15) to remove vegetative growth
- Graze forage to the minimum stubble height for the favored forage species
- Remove livestock 30 days before the first killing frost in fall

To favor wildlife species that prefer open grassland or a mix of open grassland with other cover types, prevent woody plant encroachment by stocking livestock to a level that eliminates woody invasion while maintaining minimum stubble heights of the desired forage species.

CONSIDERATIONS

Supplemental feed may be necessary to meet the desired nutritional levels for animals. Locate supplemental feed "sites" to avoid or minimize negative effects.

Use of shade and/or shelters will be included as part of this practice as conditions require.

If the producer desires, consider the need of other enterprises utilizing the same land.

Extend the grazing season by stockpiling, use of annuals (summer and winter), legumes, and brassicas.

Consider renovation of pastures if composition is undesirable and cannot be changed by grazing management.

Hayland or cropland in hay-type forages may be grazed when minimum beginning and ending forage heights are observed.

Location of water facilities will consider slope, soil, and other potential water quality and soil erosion issues. Whenever possible, livestock will not utilize streams. If streams must be used, take care to ensure minimal disturbance to streambanks and degradation of water quality.

PLAN DEVELOPMENT

Consider the following when designing a prescribed grazing plan:

Landowner's Objectives

In order for any prescribed grazing plan to work, this primary objective must be met.

Landowner's/Operator's Time

Consider available time when developing a grazing system.

Soils

Where possible, avoid placing fields/paddocks across different soil types.

Topography

Strive for topographical uniformity in field/paddock layouts to promote uniform grazing. Consider aspect when planning early spring grazing.

Special Features

Consider roads, streams, ponds, and wooded areas.

Source and Location of Water

Strive to reduce the distance animals travel to water. Locate water to reduce negative impacts. Desired walking distances to water should be 800 feet or less for most grazing livestock. The desired walking distance for lactating dairy cattle should be 400 feet or less. Consider placing livestock watering facilities at 400 to 800 feet intervals in travel lanes for lactating dairy cattle.

Location of Supplemental Feeding Areas

Consider effects on resource base, grazing distribution, storage requirements, labor, and access when locating feeding areas.

Fencing

Consider the condition, location, and type of existing fences. See Virginia Conservation Practice Standard *Fence (Code 382)* for types when developing plan.

Working Facilities

Consider location of working facilities when laying out a prescribed grazing system.

Weather Conditions

Consider the use of shade and other shelter when designing a grazing system.

Other Enterprises

Consider other goals and enterprises.

TYPES OF PRESCRIBED GRAZING METHODS

Rotational Grazing - Rotation of animals through two or more pastures. A recovery period follows each grazing period. The rotations may be extensive (slow, every two to four weeks); moderate (weekly); or intensive (one half to two days).

Management Intensive Grazing - Many names, allocates a small amount of forage in a short time (several hours to one or two days). Large pastures are offered to animals in strips with the use of temporary fencing.

First and Last Grazers - Involves two livestock groups. First grazers utilize the highest quality forage in a paddock before being rotated to another field. The last grazers are then rotated into the field to graze the remaining (lower quality) forage to the desired residual height.

Stockpiling (deferred grazing) - Grazing is delayed during part of the growing season to accumulate forage for use during periods of slow or no forage regrowth.

Limit Time Grazing - Animals are allowed to graze high quality forage such as winter annuals for a limited time each day or every other day.

Creep Grazing - Allows passage by smaller animals to higher quality forage.

PLANS AND SPECIFICATIONS

The following items shall be contained in a written prescribed grazing plan, grazing inventory worksheet, spreadsheet, GLA printout, or other documents used for preparing the plan:

1. A map showing farm, tract, field numbers, grazing unit layout, lanes (if any), acres, fencing, shade (if any), shelter (if any), watering system, and sacrifice areas.

2. Identification of dominant forage species or mixture in each grazing unit.

3. Designate fields to be used for hay harvest.

4. Designate crop fields used for grazing aftermath, residue, or annual forage grazing (planted to winter annuals, for example).

5. Indicate grazing and non-grazing by a range of calendar months for each field or grazing unit and the range of days in a grazing period and the range of days in a recovery period for each grazing cycle. Give the beginning and ending forage heights.

6. Complete a demand-supply inventory for each field by month. This may be determined using GLA, worksheets, or spreadsheets.

7. Number, kind, and class of domestic livestock throughout the grazing season.

8. Estimate of needed supplemental feed requirements.

9. Stocking rate.

10. Contingency plan for drought, heat stress (especially grazing dairies) and parasite control.

The following conservation practices may be needed to successfully implement a prescribed grazing system:

Residue Management *(Codes 329A, B, C)*

Residue Management, Seasonal *(Code 344)*

Fence *(Code 382)*

Animal Trails and Walkways *(Code 575)*

Brush Management *(Code 314)*

Conservation Crop Rotation *(Code 328)*

Cover Crop *(Code 340)*

Forage Harvest Management *(Code 511)*

Nutrient Management *(Code 590)*

Pasture and Hayland Planting *(Code 512)*

Pipeline *(Code 516)*

Spring Development *(Code 574)*

Watering Facility *(Code 614)*

Water Well *(Code 642)*

Prescribed Burning *(Code 338)*

Streambank and Shoreline Protection *(Code 580)*

Upland Wildlife Habitat Management *(Code 645)*

OPERATION AND MAINTENANCE

- Apply the prescribed grazing plan on a continuous basis, making adjustments as conditions require. The producer will ensure that the objectives are met without degrading the resource base.
- Repair or replace fences incapable of controlling livestock to the level required by the prescribed grazing plan.
- Adjust forage availability and/or livestock demand to achieve forage utilization goals according to the above criteria.
- During prolonged drought, livestock shall be moved to a sacrifice area, feedlot, or previously ungrazed emergency pasture until regrowth is achieved to the heights or stage of maturity necessary for grazing.
- Soil test fields prior to implementing a grazing plan and at least once every three to four years after achieving the proper fertility for the forages. Apply lime and fertilizer according to soil test recommendations.
- Clip pastures as needed to initiate vegetative regrowth and/or control weeds.
- Renovate or overseed pastures to introduce desired forage species. Make certain of compatibility between existing species and introduced specie(s).
- Remove or eliminate any hazard from a pasture that may injure livestock, such as loose wire, other hardware, holes, and downed trees or heavy limbs.

REFERENCES

1. NRCS, Field Office Technical Guide.
2. Soil Survey for County.
3. Handbook of Agronomy, Virginia Cooperative Extension Service, Publication 424-100, 1984.
4. Getting Started With Controlled Grazing, North Carolina State University (distributed by Virginia Cooperative Extension Service).
5. Managing Virginia's Steep Pastures, April 1985, Virginia Cooperative Extension Service Publication 418-005.
6. Southern Forages, Potash and Phosphate Institute.

7. Missouri Grazing Manual, University of Missouri, Forage Systems Research Center, edited by Jim Gerrish and Craig Roberts, 1996.

8. Controlled Grazing of Virginia's Pastures, Virginia Cooperative Extension Service Publication 418-012, by Harlan White and Dale Wolf, 1995.

9. Native Warm Season Grasses for Virginia and North Carolina; Benefits for Livestock and Wildlife, Virginia Department of Game and Inland Fisheries, Steve Capel, 1995.

10. Production and Utilization of Pastures and Forages in North Carolina, Technical Bulletin 305, NC Cooperative Extension Service, 1995.

11. Prescribed Grazing Management to Improve Pasture Productivity in New York, USDA-NRCS and Cornell University, September 1993.

12. Pennsylvania Forage Handbook, Penn State University, 1992.

13. Pastures for Profit: A Guide to Rotational Grazing. University of Wisconsin Extension and Minnesota Extension Service, A3529.

14. Virginia Technical Note, Agronomy - Forages/Pasture and Hayland Management #1, *Rotational Grazing System Layout Considerations.*

15. Virginia Technical Note, Agronomy - Forages/Pasture and Hayland Management #2, *Terms and Definitions Used in Grazing Livestock Production*.

16. Virginia Technical Note, Agronomy - Forages/Pasture and Hayland Management #3, *Completing A Forage Supply and Demand Inventory.*

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PRESCRIBED GRAZING

Approved Practice Narratives

(Acre)

(CODE 528)

528 D1 Prescribed Grazing: Extensive (slower) Rotational Grazing
Graze two or more pasture units in a rotational system by adjusting the stocking rate to allow appropriate recovery periods of the forages throughout the grazing season. Provisions such as escape paddocks/fields will be developed to meet emergency situations such as drought or saturated soils. Excess spring forage will be harvested for hay or haylage. See specific management recommendations for additional information.

528 D2 Prescribed Grazing: Moderate Rotational Grazing
Graze an appropriate number of pastures or paddocks so that no more than four to seven continuous days are spent grazing at one time on any one pasture or paddock. Allow sufficient recovery periods for the dominant forage or forage mixture. Provisions such as escape fields or paddocks will be developed to meet emergency situations such as drought or saturated soils. Harvest excess spring forage for hay or haylage. See specific management recommendations for additional information.

528 D3 Prescribed Grazing: Moderate Rotational Grazing (adjust livestock numbers)
Graze an appropriate number of pastures or paddocks so that no more than four to seven days are spent grazing at one time on any one pasture or paddock. Allow sufficient recover periods for the dominant forage or forage mixture. Forage supply and demand will be matched by adjusting the stocking rate. Provisions such as escape fields or paddocks will be developed to meet emergency situations such as drought or saturated soils. See specific management recommendations for additional information.

528 D4 Prescribed Grazing: Moderate Rotational Grazing (combination of perennial forage species)
Graze an appropriate number of pastures or paddocks so that no more than four to seven days are spent grazing at one time on any one pasture or paddock. Allow sufficient recovery periods for the dominant forage or forage mixture. Forage supply and demand will be matched throughout the grazing season by the use of an appropriate combination of cool season perennial forages and warm season perennial forages. Provisions such as escape fields or paddocks will be developed to meet emergency situations such as drought or saturated soils. See specific management recommendations for additional information.

528 D5 Prescribed Grazing: Moderate Rotational Grazing (combination of annual and perennial forage species)
Graze an appropriate number of pastures or paddocks so that no more than four to seven days are spent grazing at one time on any pasture or paddock. Allow sufficient recovery periods for the dominant forage or forage mixture. Forage supply and demand will be matched throughout the grazing season by the use of an appropriate mixture of forage types, both perennial and annual. Provisions such as escape fields or paddocks will be developed to meet emergency situations such as drought or saturated soils. See specific management recommendations for additional information.

528 D6 Prescribed Grazing: Intensive Rotational Grazing
Graze an appropriate number of paddock or pasture units in an intensive rotation system by adjusting the recovery period of the dominant forage or forage mixture throughout the grazing

season. The grazing period will range from one half to several days. Grazing heights and appropriate recovery periods will be observed throughout the grazing season. Provisions such as escape paddocks or fields will be developed to meet emergency situations such as drought or saturated soils. See specific management recommendations for additional information.

528 D7 Prescribed Grazing:
The established grazing plan which properly forage supply with forage demand for the farm will be followed. Provisions such as escapefields or paddocks will be developed to meet emergency situations such as drought or saturated soils. See the specific plan for details on grazing periods, recovery periods, and escape paddocks.